Matter
Earth
Cells
Heredity
Classify

Mitosis and Meiosis describes the process by which the body prepares cells to participate in either asexual or sexual reproduction to make an entire organism.

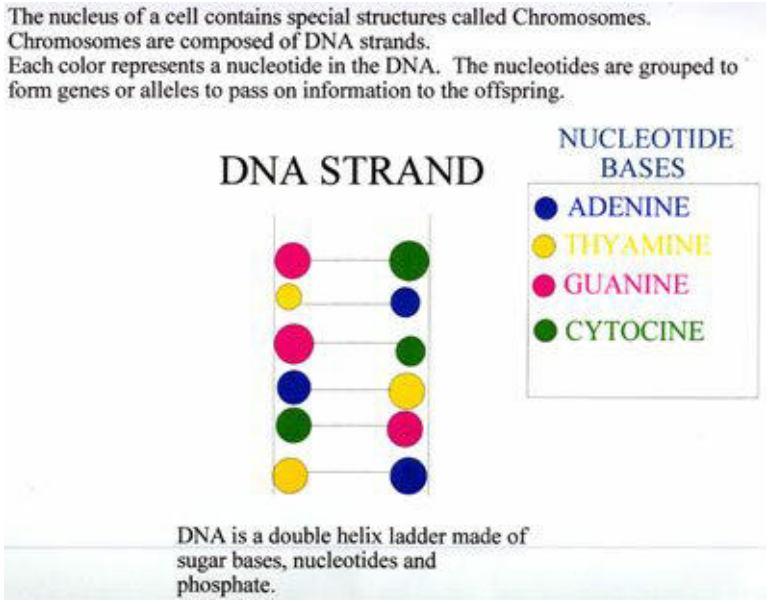
Examples of Mitosis and Meiosis

Mitosis is the reproduction of skin, heart, stomach, cheek, hair etc. cells. These cells are "Autosomal" cells. This is also a form of "Asexual" reproduction, where one organism or cell reproduces itself. Some organisms that reproduce asexually are hydra, bacteria, and single celled organisms.
"A" greek meaning "without."

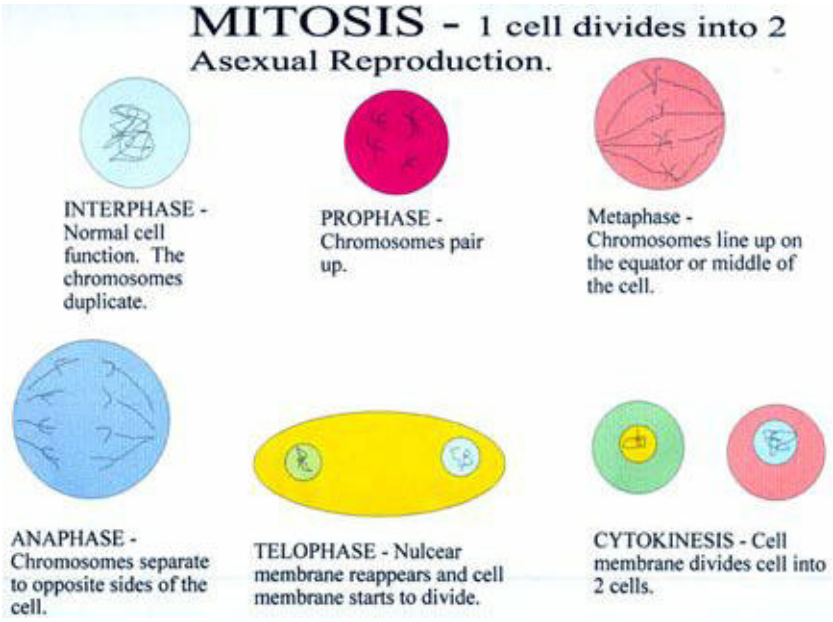
"Sex" Greek meaning "to cross."

Meiosis is the production of sperm and egg cells. These cells are "Gamete" or "Sex" cells. Each cell has to go through the division process twice in order for the cell to end up with half the number of chromosomes. The cells pass on genetic information to the offspring. This is a form of "Sexual" reproduction, where one organism or cells reproduces by crossing with another organism or cell. Types of organisms that reproduce sexually are; plants, animals, and insects.

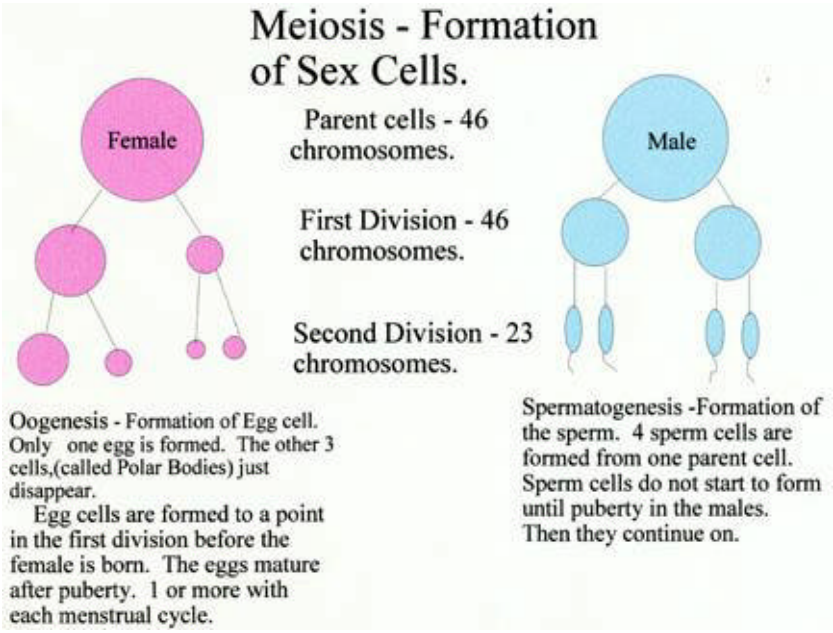
- For either of these processes of reproduction we must first understand the basic Chromosome structure that the body uses in either Mitosis or Meiosis.



Mitosis: -- **One cell becomes two cells** -- The new "daughter" cell has exactly the same number of chromosomes and information as the "parent" cell. 1 cell divides and becomes 2 cells.



Meiosis: -- **<u>One cell becomes 4 cells</u>**--There are 4 new "daughter" cells. Each new gamete cell contains only <u>one-half</u> of the number of chromosomes of the parent cell. Each sex cell goes through the division process twice in order to have the correct number of cells, and the correct chromosomal information. (Look carefully at the diagram below to understand how each chromatid becomes part of a new sperm or egg cell. Go back to the first diagram if necessary to study what a chromosome pair, chromatid, and allele is.)



In female mammals (humans too) 3 of the gametes do not mature with a full yoke sack. Only 1 of the 4 can become a mature egg. All mature eggs are formed to a certain stage in the first division.
In male mammals (humans too) all 4 gametes mature into sperm cells. The male is continually forming these after birth.

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